Art. XII.—*Contributions to the Flora of Australia, No. 21.*[1]

The Flora of the Northern Territory (Leguminosae).

BY

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AND

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(With Plates XIV., XV.).

[Read 10th July, 1913].

As is well known, the Commonwealth Government, since taking over the Northern Territory, have carried out a policy of energetically investigating the natural resources of this tract of country.

In addition to the expedition by Gilruth and Spencer, the Barclay expedition traversed a large part of the Territory, and Mr. Hill, the botanist attached to the party, made large collections of plants.

Dr. Morrison was appointed to assist in the work of investigating these collections, and the flora of the Territory generally, and the present paper is the first fruits of the work done. It includes the Leguminosae only; the other orders will follow as their examination is completed.

Mr. Maiden has undertaken the investigation of the Myrtaceae and of the Acacias, in which groups his knowledge is unrivalled.

The present paper not only gives much additional information as to the distribution of the plants of this order in the Territory, but also includes descriptions of four new species—Isotropis argentea, Jacksonia anomala, Psoralea luteosa, and Tephrosia pubescens.

Very little is known as yet as to the economic properties of the plants of the Northern Territory, more particularly as regards their fodder value or poisonous properties. Dr. Gilruth obtained data during his first visit of the food value of certain grasses which have since been identified and published in the 19th Contribution to the Flora of Australia.

The Leguminosae include not only many of the most valuable fodder plants, but also many poisonous plants. Few of the

1 No. 20 in Proc. Roy. Soc. Victoria, vol. xxvi. (n.s.), p. 1., 1913.

plants on the present list have been tested as yet from this point of view, but poisonous species are known to occur in the following genera :—Bauhinia has three poisonous species, one of which is a fish poison, and another an anthelminthic, but no data are available for the species of this genus on the present list. *Brachysema undulatum* grows in other parts of Australia, and causes mechanical injury. *Canavalia obtusifolia* causes gastro-enteritis in stock.

Several species of Cassia are considered poisonous, and, according to Greshoff, this also applies to *Cassia Sophora* and *C. Sturtii*. No less than five species of *Crotalaria* are recorded as poisonous, and of these one, *C. Mitchelli*, grows in the Northern Territory. Three species of *Erythrina* and two of *Erythrophlaeum* have been recorded as poisonous, but they do not include any of the species growing in the Territory. The Asiatic *Flemingia congesta* is a taenifuge, but the *F. lineata* of the Territory has not been tested. Many species of *Gastrolobium* are poisonous, but only one incompletely tested species (*G. grandiflorum*) is included in the present list.

Indigofera hoviperda, however, has in West Australia been responsible for large losses of stock. The genera *Phaseolus*, *Psoralea* and *Sesbanea* include poisonous species, but apparently none from the Territory. *Rhynchosia minima* is, however, poisonous according to Greshoff, and the same may be found ultimately to apply to some of the species of *Swainsona* and *Tephrosia*. Several species of the latter genus are well-known fish poisons, and this applies to at least one species from the Territory, namely, *Tephrosia purpurea*. In this direction there will be much work to be done in the future.

Alysicarpus longifolius, W. and Arn.

Okey Creek, G. F. Hill (No. 761), 16/2/1912.

Alysicarpus rugosus, DC.

Ten miles west of Eva Downs, G. F. Hill (No. 522), 9/8/1911.

Atylosia marmorata, Benth.

Maude Creek, Professor Spencer and others, July-August, 1911.

Bauhinia Cunninghamii, Benth.

S. Lat. 18 deg. 28 min.—Long. 132 deg., G. F. Hill (No. 444), 6/7/1911; Katherine Creek, Professor Spencer and others, July-August, 1911; 40 miles south-east of Newcastle Waters, G. F. Hill (No. 444), 10/8/1911.

Bossiaea phylloclada, F. v. M.

Sandstone country, near Tanumbirini. G. F. Hill (No. 804), 26/3/1912.

Brachysema Chambersii, F. v. M.

Forty miles west of Lander Creek, civ., G. F. Hill (No. 365), 21/6/1911.

Canavalia obtusifolia, DC.

North Island, Gulf of Carpentaria, G. F. Hill (No. 628), 20/10/1911.

This plant is poisonous, according to Greshoff, but the poisonous principle is not known.

Cassia Chatelainiana, Gaud.

Seventy miles north of Survey Camp civ., G. F. Hill (No. 393), 28/6/1911; S. Lat. 17 deg.—Long. 132 deg., G. F. Hill (No. 455), 7/7/1911.

Cassia concinna, Benth.

Seventy miles North of Survey Camp, civ., G. F. Hill (No. 386a), 28/6/1911; 20 miles south-west of Borroloola, G. F. Hill (No. 574), 7/9/1911; Sandstone country, Borroloola, G. F. Hill (No. 604), 2/10/1911; Lower McArthur River, G. F. Hill (No. 677), 8/11/11.

Cassia desolata, F. v. M.

Near Haast's Bluff, Macdonnell Ranges, G. F. Hill (No. 208), 26/5/1911.

Cassia eremophila, A. Cunn.

Seven miles north of Charlotte Waters, G. F. Hill (No. 17), 23/2/1911; Henbury Station, Finke River, G. F. Hill (No. 43), 9/3/1911; Jay Creek, G. F. Hill (No. 43), 21/3/1911.

Cassia eremophila, A. Cunn., var. platypoda.

Charley Creek, Macdonnell Ranges, G. F. Hill (No. 174), 14/5/1911.

Cassia leptoclada, Benth.

Sandstone ranges near Western Creek, Borroloola, G. F. Hill (No. 745), 15/2/1912.

Cassia Sophora, L.

Haast's Bluff (3000 ft.), Macdonnell Ranges, G. F. Hill (No. 177), 16/5/1911.

This plant is poisonous, according to Greshoff, but the poisonous principle is not known. The same applies to *Cassia Sturtii*.

Cassia Sturtii, R. Br.

Henbury Station, Finke River, G. F. Hill (No. 36), 7/3/1911; near Haast's Bluff, Macdonnell Ranges, G. F. Hill (No. 205), 26/5/1911; 60 miles north-east of ᶜii., G. F. Hill (No. 282), 7/6/1911.

Cassia venusta, F. v. M.

ᶜii., G. F. Hill (No. 240a), 3/6/1911; ᶜiii., Lander Creek, G. F. Hill, 10/6/1911; 11 mile Creek, near Katherine, Professor Spencer and others, July-August, 1911; On sandstone ranges, Western Creek, near Borroloola, G. F. Hill (No. 746), 13/2/1912.

Crotalaria Cunninghamii, R. Br.

Seventy miles north of ᶜiv., G. F. Hill (No. 386), 28/6/1911; Borroloola, G. F. Hill (No. 663), 7/11/1911.

Crotalaria dissitiflora, Benth.

Glabrous form.

Hermansburg, Kinke River, G. F. Hill (No. 54), 11/3/1911. 11/3/1911.

Crotalaria dissitiflora, Benth.

Hermansburg, Finke River, G. F. Hill (No. 54), 11/3/1911.

Crotalaria linifolia, Linn. f.

Borroloola, G. F. Hill (No. 615), 9/10/1911; Lower McArthur River, G. F. Hill (No. 676), 8/11/1911.

Crotalaria linifolia, Linn. f.

Elongated variety.

Orkey Creek, G. F. Hill (No. 761), 16/2/1912.

Crotalaria Mitchelli, Benth.

Twelve miles north-west of ᶜiii. (Long. 132½—Lat. 21¾ S.), G. F. Hill (No. 326), 12/6/1911.

This plant is poisonous, according to Greshoff and to Maiden, but the poisonous principle is unknown.

Crotalaria retusa, L.

Edith Creek, Professor Spencer and others, July-August, 1911; Lower McArthur River, G. F. Hill (No. 681), 8/11/1911.

Crotalaria trifoliastrum, Willd.

Haast's Bluff (4000 ft.), Macdonnell Ranges, G. F. Hill (No. 191), 18/5/1911.

Crotalaria trifoliastrum, Willd.

Lat. 19 deg. S., Long. 132 deg., G. F. Hill (No. 434), 4/7/1911. Form with leaflets 2 mm. broad.

Desmodium Muelleri, Benth.

Near Western Creek, G. F. Hill (No. 755), 15/2/1912; Western Creek, G. F. Hill (No. 757), 15/2/1912.

Erythrina vespertilio, Benth.

About 30 miles north-west of Twitchera Gap, Macdonnell Ranges, G. F. Hill (No. 165), 10/5/1911; Borroloola, G. F. Hill (No. 665a), 8/11/1911.

Erythrophlaeum Laboucherii, F. v. M.

Newcastle Waters, G. F. Hill (No. 473), 7/7/1911.

Flemingia lineata, Roxb.

Edith Creek, Professor Spencer and others, July-August, 1911.

Gastrolobium grandiflorum. F. v. M.

Seventy miles north civ. on Lander Creek, G. F. Hill (No. 382), 28/6/1911.

This is poisonous, according to Greshoff, and acts as an inebriant. The poisonous principle is not known with certainty, but may be a readily decomposing alkaloid.

Indigofera boviperda, Morrison.

(Journ. of Botany, l., 166, May, 1912.)

To the description of fruiting specimens in the place above quoted may be added the following notes of flowers on specimens from the Northern Territory :—

longer than tube; bracts lanceolate-subulate, 2-3 mm., deciduous

Calyx about 3 mm., tube broad, lobes narrow lanceolate, rather before flower opens; petals reddish purple, standard broadly ovate on a short claw, 6 x 4 mm., villous externally, keel as long, slightly incurved, obtuse, tomentose on lower margin, both minutely apiculate, wings shorter, 5 mm., narrow oblong; anthers acutely apiculate, 0.6 mm. long, ovary villous, style incurved, stigma small.

Lander Creek, N.T., about 21 deg. S. Lat., and 132 deg. E. Long., G. F. Hill, No. 374, 25/6/1911; also Ashburton River, N.W. Australia, Stuart Carey, 1883.

The plant poisoned 120 cattle in one night at the Ashburton River in 1905, and some settlers recognised it as a reputed poison plant seen by them also in the Kimberley District, further north. The area of its distribution is, therefore, very extensive.

Indigofera brevidens, Benth.

G. F. Hill, 1911.

Indigofera enneaphylla, L.

Sixty miles north-east of Cii., G. F. Hill (Nos. 285 and 287), 7/6/1911.

Indigofera haplophylla, F. v. M.

Sandstone ranges, near Western Creek, G. F. Hill (No. 772), 16/2/1912.

Indigofera linifolia, Retz.

Hermansburg, Finke River, G. F. Hill, No. 83, 13/3/1911.

Isotropis argentea, Ewart and Morrison.

Flowers in axillary racemes, petals yellow, of about equal length, keel beaked, pod oblong, obtuse, seeds numerous, smooth.

A slender, few-branched undershrub, 1½ feet high, the whole plant clothed with an indumentum of appressed shining hairs. Leaves unifoliolate, articulate on a very short petiole, narrow linear, flat but closely induplicate, subacute and recurved at distal end, in length up to 5 cm. x 0.3 cm. broad, the stiff silvery hairs more dense on under surface. Stipules subulate and short.

Racemes short, axillary or terminal, flowers few or solitary, peduncles 6-8 mm., with a pair of narrow lanceolate bracts at articulation near or above middle, and similar but smaller bracteoles close to calyx, which is about 7 mm. long, two lipped, lobes at least twice as long as tube, lanceolate, the upper pair united higher up, forming a broad lip, the lower lobes curving over the prominent keel. Petals yellow, about as long as calyx, standard on a very short, broad claw, ovate, obtuse, wings slightly shorter, oblong, membranous near base, keel as long as standard with a very slender claw, sharply incurved and broad and membranous below the straight beak. Pod sessile, densely pubescent with stiff erect hairs brown on young pod at first, but yellowish on mature pod, which is turgid, oblong, obtuse with a minute recurved blunt point, 2.1

cm. long x 0.6 cm. thick, the pedicel enlarged under it; funicles short, seeds about 26 in pod, subreniform, astrophiolate, flattened and smooth.

Ten miles west of Eva Downs, G. F. Hill, No. 524a, 19/8/1911.

The obtuse pod of this plant, as well as the large beaked keel, distinguished it from the other species of Isotropis. In I. Wheeleri, F.v.M., the seeds are reniform, with a strongly-marked network of raised lines on the surface, and the pubescence is of a different character, its racemes also are terminal, and its pod smaller and acute, while the leaves are tubular rather than terete and channelled as described by Bentham. I. Winneskii, F.v.M., has smaller seeds, symmetrically reniform, and rugose over a broad band round the outer margin, the funicle remaining attached in the narrow sinus.

Jacksonia anomala, Ewart and Morrison, n. sp.

Upper lobes of calyx shorter than lower, connate to top, petals somewhat shorter than calyx, standard small, shorter than the other petals, pod subglobose with two seeds. Flowers small situated on base of dichotomous, striate, leafless stems, with broad scarious bracts and bracteoles.

A small undershrub reaching one foot in height, with numerous stems repeatedly forked from base; branches flattened angular, striate, not pungent, at first thinly pubescent, 1.5 mm. broad; leaves represented by small brown lanceolate scales at nodes. Flowers very shortly pedicellate on short dense nearly sessile racemes clustered on basal rounded portions of branches, each subtended by a suborbicular brown villous bract, with a pair of oblong ovate mucronate bracteoles at base of calyx, in both cases 5 mm. in length, and persisting. Calyx densely silky villous, cleft to near base, lower lobes 9 mm. oblong-linear and acuminate, connate to top and forming a broad ovate lip 7-8 mm. long, with a subulate bifid tip. Petals and pod firmly clasped by calyx, standard broadly ovate, on a very short broad claw, about 5 mm. in length, and fitting under the concave upper lip of the calyx, wings on a very slender claw, narrow oblong, of about the same length as keel, but with a transverse fold near top, keel nearly 8 mm. long, ovate lanceolate. Pod ovoid or subglobose, sessile, villous, 1 cm. long, including the straight and tapering acuminate beak, which is nearly as long as the pod itself, and exceeds the calyx; seeds two, approximately reniform, smooth, brown, 2 mm. in length.

Lat. 18 deg. 27 min. S. Long. c 132 deg. E. G. F. Hill, No. 499, 6/7/1911.

This plant shows affinities to some of the Brachysemas, particularly the xerophytic species of the section Leptosema, in the leafless condition, radical inflorescence, broad bracteoles (as in B. bracteolosum), connate upper calyx lobes, and small ovate standard; but it differs in the small number of seeds in the pod, and in the size and colour of the flowers. Compared with Jacksonias, on the other hand, it agrees in having small flowers, with the upper calyx lobes shorter than the lower, petals yellow, nearly equal in length, and shorter than the calyx. The seeds in the pod are only two, which is the usual number in Jacksonia, and if we consider that the leafless condition is normal in that genus, while exceptional in Brachysema, there need be no hesitation in deciding its generic position.

There is seen in this species a considerable resemblance to some of the smaller forms of the Scoparia section found in extra-tropical South-west Australia, and its mature calyx even shows the angular character noted in the buds of J. angulata and others.

Jacksonia dilatata, Benth.

Edith Creek, Professor Spencer and others, July-August, 1911; Bacon Swamp, Professor Spencer and others, July-August, 1911; Sandstone ranger, Borroloola, G. F. Hill (No. 600), 2/10/1911.

Jacksonia odontoclada, F. v. M.

Hell Gate, Roper River, Professor Spencer and others, July-August, 1911.

Jacksonia ramosissima, Benth.

Twenty miles south-west of Borroloola, G. F. Hill (No. 564), 7/9/1911.

Lotus australis, Andr.

c.iii., Lander Creek, G. F. Hill (No. 316), 10/6/1911.

Classed as a poison plant by Greshoff, Smith and Maiden, but no poisonous principle has been extracted, and the evidence as to its poisonous properties is not satisfactory.

Mirbelia oxyclada, F. v. M.

On sandhills, 70 miles north of Survey Camp c.iii., G. F. Hill (No. 394), 25/6/1911; 110 miles north of Survey Camp, c.iv., G. F. Hill (No. 408), 1/7/1911.

Petalostyles labicheoides, R. Br., var. cassoides, Benth.

Jay George, Macdonnell Ranges, G. F. Hill (No. 133), 4/5/1911; 40 miles N.N.W of Meyer's Hut, G. F. Hill (No. 233), 2/6/1911.

Petalostyles labicheoides, R. Br., var. microphylla, n. var.

Forty miles west of Lander's Creek, civ., G. F. Hill (No. 364), 23/6/1911. The stems and leaf-rhachis of this variety are stouter, more rigid, and almost spinescent, terete and covered by a dense hoary coating of hairs. The leaflets reach to 41 in number, and are broadly obovate and retuse or even obcordate, thinly pubescent on lower surface and glabrous above, measuring 2-4 mm. in length by less than 3 mm. in breadth. The sepals are thinly pubescent, and are longer and broader (13 by 3 mm. max.) than those of No. 133, var. cassioides, in which, however, the petals are larger, and the leaflets reach 45 in number.

In the form No. 233, which is almost glabrous, the leaflets are mostly 5-6 mm. long, with the terminal one 8-9 mm. Numerous intermediate forms connect the small-leaved varieties with the fully-developed type.

The var. cassioides described by Bentham (from Sturt Creek and Gulf of Carpentaria) is represented in the Melbourne Herbarium by specimens from Sturt Creek and Nicholson River, both collected by F.v.M. in 1856, but neither has the varietal name added on the labels. On the other hand a specimen of var. microphylla (from Mt. Churchman, W.A., Young) is labelled by the Baron, evidently in error, "var. cassioides," but in it there are between 50 and 60 leaflets, measuring only 2-3 mm. in length, hirsute, and with a recurved blunt point. Another specimen, collected by Giles shows the rigid and almost spinescent character, while two specimens from the upper Ashburton River, W.A. (Cuthbertson, 1888) indicate, the one, a development approaching the typical, and the other a scrubby form similar to v. microphylla in the size of the leaf. The leaf development may be taken to indicate the nature of the water supply, the small-leaved forms being found in arid surroundings; although the bed of a river where moisture is retained in the mud and gravel, produces in the driest season the fully-developed form in flower, while beyond the overhanging banks almost all else is desiccated and dormant.

Phaseolus Mungo, L.

Okey Creek, G. F. Hill (No. 765), 16/2/1912.

Pithecolobium moniliferum, Benth.

Borroloola, G. F. Hill (No. 582), 12/9/1911; McArthur River, G. F. Hill (No. 582).

Psoralea badocana, Benth.

Maude Creek, Professor Spencer and others, July-August, 1911; 11 Mile Creek (near Katharine), Professor Spencer and others, July-August, 1911.

Psoralea cinerea, Lindl.

Lake Woods, G. F. Hill (No. 486), 2/8/1911.

Psoralea leucantha, F. v. M.

Survey Route, Lat. 19 deg. 16 min. S., G. F. Hill (No. 429), 4/7/1911.

Psoralea luteosa, Ewart and Morrison, n. sp.

Lowermost calyx lobe slightly longer than rest, which are equal; petals green, glabrous, standard and keel equal, wings slightly shorter; style glabrous, terete; pod ovoid, indehiscent, two-seeded. Plant glandular, with trifoliolate digitate leaves and large scarious stipules.

Leaves on striate angular petioles of about 2 cm., trifoliolate, digitate, leaflets lanceolate, entire, obtuse or subacute, the terminal one larger (4.3 x 3.5 cm.), thinly woolly tomentose on both sides, veins prominent on under side and ending at margin, sprinkled with minute black glands. Stipules 7 mm. in length, lanceolate, striate, scarious.

Flowers in nearly sessile racemes, which spring from leafless base of branches or from upper axils, the longest 12 cm.; bracts linear-lanceolate, striate, scarious, 3 mm. long, completely covering buds in dense young racemes, deciduous like the stipules, pedicels single or in pairs, 2-4 mm. long, at length distant. Calyx about 6 mm., glandular, silky villous, lobes linear-lanceolate acuminate, three times as long as the campanulate tube, the lowermost 1 mm. longer than the others, which are equal, the upper pair shortly united at base. Petals shortly exceeding calyx, yellowish green, standard obovate or suborbicular, somewhat reflexed, with a pair of small auricles above a tapering claw, 6-7 mm. long, x 4 mm. broad; keel quite as long, incurved, obtuse, glabrous like the standard, wings a little shorter, narrow, falcate, adhering to keel at base, claws of both narrow linear; ovary sessile, villous, style incurved, glabrous, terete; pod indehiscent, oblong-ovoid, about half as long as calyx, villous, obtuse, with a horn-like incurved point, seeds two, astrophiolate, oblong, brown, 1 mm. in length, dorsal side flat, with a narrow rim enclosing a long pit.

Northern Territory, north of Lat. 15 deg. S., W. S. Campbell, September, 1911.

A small glandular undershrub, with its branches rising erect from horizontal rhizomes or branches to a height of 14 cm. over all. In Tephrosia the glandular character is not observed, the leaves are generally pinnate, the standard tomentose, and style flattened; the pod also is seldom ovate, but flat and dehiscent, and contains usually more than two seeds. While this number of seeds is an exceptional minimum in Tephrosia, it is rare to find more than one in Psoralea. Although there are many differences from either genus in the details of structure of the flowers, there are more points of resemblance to Psoralea than to Tephrosia, and the glandular character, digitate leaves, and structure of the pod point to the former. If the digitate leaves with three entire leaflets be taken as a guide to its position in the genus, it would be placed in the small group represented by P. adscendens, but its other characters differ widely. The yellowish-green colour of the flowers is not recorded in Australian species of either Psoralea or Tephrosia. The species is apparently related to F. v. Mueller's P. Schultzii, of which only a few (purple) flowers and some leaf fragments exist.

Psoralea patens, Lindl.

Abraham's Lagoon, Professor Spencer and others, July-August, 1911.

Psoralea pustulata, F. v. M.

Newcastle Waters, G. F. Hill (No. 474), 17/7/1911.

Ptychosema trifoliolatum, F. v. M.

Lander Creek, Ciii., G. F. Hill (No. 306), 10/6/1911.

Rhynchosia minima, DC.

Lower McArthur River, G. F. Hill (No. 675), 8/11/1911.

Sesbania aculeata, Pers.

Crescent Lagoon, Professor Spencer and others, July-August, 1911; McArthur River, G. F. Hill (No. 672), 8/11/1911; Hodson Downs, G. F. Hill (No. 827), 5/4/1912.

Sesbania grandiflora, Pers.

North of 15 deg., W. S. Campbell, 5/9/1911.

Swainsona Burkei, F. v. M.

Thirty-eight miles north-west of °iv., Lander Creek, G. F. Hill (No. 378), 24/6/1911.

Swainsona oroboides, F. v. M.

Sixty miles north-east of °ii., G. F. Hill (Nos. 284 and 286a), 7/6/1911.

Swainsona sp.

Ten miles west of Eva Downs, G. F. Hill (No. 521), 19/8/1911.

Templetonia Hookeri, Benth.

(Nematophyllum Hookeri, F. v. M.)

South of Newcastle Waters, G. F. Hill (No. 481), 12/7/1911; track to Maude Creek, Professor Spencer and others, July-August, 1911.

Tephrosia filipes, Benth.

Haast's Bluff (4000 ft.), G. F. Hill (No. 188), 17/5/1911.

Tephrosia flammea, F. v. M.

North Island, Gulf of Carpentaria (sandstone ranges), G. F. Hill (No. 633), 20/10/1911; Borroloola, G. F. Hill (No. 657), 7/11/1911; sandstone ranges, near Western Creek, G. F. Hill (No. 777), 16/2/1912.

Tephrosia phaeosperma, F. v. M.

North Island, Gulf of Carpentaria, G. F. Hill (No. 624), 20/10/1911.

Tephrosia pubescens, Ewart and Morrison, n. sp.

Flowers in pedunculate axillary racemes, calyx lobes and tube of about equal length, standard half as long again as calyx, keel as long, incurved and very shortly beaked; leaves trifoliolate, with prominent veins anastomosing within the margin.

Leaves trifoliolate on petioles of 2 cm. or less, leaflets ovate or obovate, petiolulate, terminal one 3 cm., and larger than the lower pair, primary veins anastomosing within the margin, very prominent, as are also the intervening reticulations, smoother and greenish on upper surface. Stipules small, lanceolate.

Flowers in short racemes of 1.5 cm. pedunculate in uppermost avils, peduncles much longer than leaves, rusty pubescent like the stem, pedicels about as long as calyx; calyx tube narrow campanulate 0.5 cm., lobes lanceolate acute, upper pair about as long as tube, and united to near the top, lowermost 0.6 cm.

Standard broadly obovate-cuneate, very obtuse, yellowish, with purple veins, 1.5 cm. long x 0.5 cm. broad at top, keel about same length and breadth, incurved, with a very short obtuse beak, wings shorter and narrow. Upper stamen geniculate, not hairy. Ovary villous. Pod not seen.

Top Spring, G. F. Hill, No. 535, 31/8/1911.

An undershrub, with somewhat stout unbranched stems, clothed like the inflorescence and petioles, with a rusty indumentum, the leaflets greenish grey, with a dense and close pubescence and very prominent veins and reticulations as in T. coriacea and flammea. In shape and indumentum, however, the leaves differ, as well as in the long and stoutish peduncles bearing cluster-like racemes at the top.

Tephrosia purpurea, Pers.

Sandstone ridges, North Island, Gulf of Carpentaria, G. F. Hill (No. 630), 20/10/1911; Borroloola, G. F. Hill (661), 7/11/1911; sandstone ranges, near Western Creek, Borroloola, G. F. Hill (No. 745a), 15/2/1912.

This plant is well known as a fish poison, and if eaten might also be poisonous to stock.

Tephrosia uniovulata, F. v. M.

Twenty-eight miles south-west of Newcastle Waters, G. F. Hill (No. 499), 8/7/1911.

Uraria cylindracea, Benth.

Five mile bar, McArthur River, G. F. Hill (No. 734), 6/2/1912.

Zornia diphylla, Pers.

Black Rocks, McArthur River, G. F. Hill (No. 644), 22/10/1911; sandstone range, Top Spring, Kilgour River, G. F. Hill (No. 553), 1/9/1911.

EXPLANATION OF PLATES.

Plate XIV.

Fig. 1.—Indigofera boviperda, Morrison.

Fig. 2.—Jacksonia anomala, n.sp.

Plate XV.

Fig. 1.—Tephrosia pubescens, n.sp.

Fig. 2.—Psoralea lutessa, n.sp.

Fig. 3.—Isotropis argentea, n.sp.